Remarks

Claims 1-32 are pending in this application. In an Office Action dated December 21, 2004, the Examiner rejected claims 1-3, 9-12 and 25-27 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,658,590 to Sicola *et al.* (Sicola) in view of U.S. Patent No. 6,647,516 to Rust *et al.* (Rust). The Examiner objected to claims 4-8, 13-19 and 28-31 as depending from a rejected base claim. The Examiner allowed claims 20-24 and 32. The Examiner objected to the title as "not descriptive." Applicant respectfully disagrees with the Examiner's rejections and objection and requests reconsideration in light of the following arguments.

Claim 1 provides a virtual storage system including a computing device accessing virtual storage, a plurality of physical storage devices, and a controller. The controller receives a virtual storage access request from the computing device specifying a virtual data access. The virtual data access includes a plurality of blocks, each of the blocks associated with one of at least two target physical storage devices. The target physical storage devices include at least a subset of the physical storage devices. An access sequence associating one target storage device with each block in the received virtual storage access request is determined. At least one physical access request is sent to each target storage device. At least one error message is received from at least one target storage device, each error message having an error type. An error response is determined based on the error message type and on the access sequence.

The Examiner rejected claim 1 as an obvious combination of Sicola and Rust. The Examiner admits that Sicola does not disclose Applicant's receiving at least one error message and determining an error response based on the message type and access sequence. In particular, the Examiner states the following:

> Regarding the limitation of "determine an error response sed on the error message type and on the access sequence," Rust discloses a system that can isolate a device given and error [*sic*] certain type of error conditions. (Lines 45-49 of Column 6).

The Examiner makes no attempt to find any teaching or suggestion, in either Rust or Sicola, for determining an error response based on the access sequence. Nor doe the

passage cited by the Examiner in Rust, repeated as follows, deal with determining an error response based on access sequence:

> Although not shown, devices 50, 52 may be coupled with other components of storage system 10 in other embodiments. Other components coupled with devices 50, 52 also include respective analysis circuitry and interfaces to detect the communication of errors within respective transactions and to isolate such devices from devices communicating transactions including error conditions.

The "teaching" referred to by the Examiner says nothing about access sequence.

The Examiner has failed to establish a *prima facie* case of obviousness by not finding any teaching or suggestion for each element of Applicant's claim 1. Claims 2-9, which depend from claim 1, are therefore also patentable.

Independent claim 10 provides a method of servicing a virtual storage request placed by a computing device. An access sequence associating one target storage device with each block in the virtual storage request is determined. At least one physical access request is sent to each target storage device. At least one error message is received. Each error message is sent from one target storage device and has one of a plurality of error types. An error response is determined based on the error type for at least one error message and on the access sequence.

The Examiner rejected claim 10 as an obvious combination of Sicola and Rust. The Examiner relied on Rust for disclosing Applicant's error response based, *inter alia*, on the access sequence, citing again Rust's col. 6, ll. 45-49. As above, Rust neither teaches nor fairly suggests Applicant's error response.

The Examiner has failed to establish a *prima facie* case of obviousness by not finding any teaching or suggestion for each element of Applicant's claim 10. Claims 11-19, which depend from claim 10, are therefore also patentable.

Independent claim 25 provides a virtual storage system including a plurality of physical storage devices, and a controller. Each physical storage device stores information as a plurality of blocks and responds to a failed physical access request with an error message having one of a plurality of error types. The controller responds to a virtual storage request for a sequence of blocks stored on at least two of the physical storage devices. An access

sequence associating one physical storage device with each block in the virtual storage request is determined. At least one physical access request is sent to each physical storage device listed in the access sequence. At least one error message is received from at least one of the physical storage devices in the access sequence. An error response is determined based on the error type for at least one error message and on the access sequence.

The Examiner rejected claim 25 as an obvious combination of Sicola and Rust. The Examiner relied on Rust for disclosing Applicant's controller determining an error response based, *inter alia*, on the access sequence, citing again Rust's col. 6, ll. 45-49. As above, Rust neither teaches nor fairly suggests Applicant's error response.

The Examiner has failed to establish a *prima facie* case of obviousness by not finding any teaching or suggestion for each element of Applicant's claim 25. Claims 26-31, which depend from claim 25, are therefore also patentable.

The Examiner objected to the title as "not descriptive," but failed to indicate how the title was nondescriptive. Applicant disagrees with the Examiner's assessment of the title. If the Examiner does not withdraw his objection, the Examiner is respectfully requested to point out in what manner the title is defective or suggest an alternative.

Claims 1-32 are pending in this application. Applicant believes these claims meet all substantive requirements for patentability and respectfully request that this claim be passed to issuance. Please charge the Petition fee of $120 and any additional fees, or credit any overpayments as a result of the filing of this paper, to Deposit Account No. 19-4545 as specified in the Application Transmittal. A duplicate of this paper is enclosed for that purpose.

The Examiner is invited to contact the undersigned to discuss any aspect of this case.

Respectfully submitted,

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